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Kyle [US/US]; 306 Whitmore Road, Damascus, PA 18415 (US).

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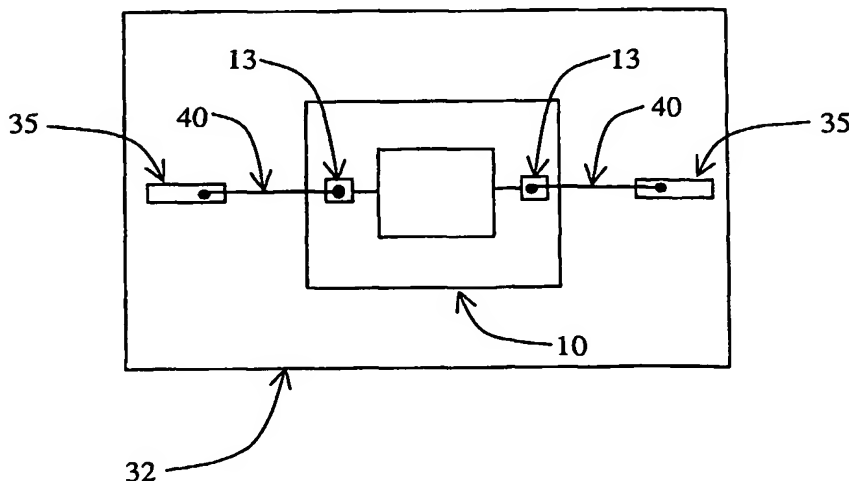
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[Continued on next page]

(54) Title: ELECTRICAL INTERCONNECT STRUCTURES FOR INTEGRATED CIRCUITS AND METHODS OF MANUFACTURING THE SAME



(57) Abstract: Disclosed are interconnect structures and methods which utilize a bonding surface comprising copper nitride. The interconnect structures include a bonding surface comprising copper nitride which is effective at preventing oxidation and/or other unwanted corrosion of the underlying conductive material while providing the basis for a high conductivity bond. The copper nitride bonding surface provides a relatively non-conductive, corrosion-resistant bonding surface while at the same time being readily transformed into a conductive layer at or just prior to the time of bonding.



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# INTERNATIONAL SEARCH REPORT

International Application No

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## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H01L23/485 H01L21/60 H01L21/607 H01L21/603

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H01L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 01/01478 A (RAMM JUERGEN ; BALZERS HOCHVAKUUM (LI))	1-3, 10-12, 24-26, 38
Y	4 January 2001 (2001-01-04) page 3, line 13 - page 6, line 27; claims 9, 19	6-9, 13-17, 20, 22, 23, 27-31, 34, 36, 37
E	& US 2004/087150 A1 (RAMM JURGEN) 6 May 2004 (2004-05-06)  the whole document	1-3, 10-12, 24-26, 38

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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